



AN ELLSWORTH ADHESIVES COMPANY 

TECHNICAL DATA SHEET EP1238

03/27/2009

W186 N11687 MORSE DRIVE GERMANTOWN, WI 53022
262-502-6610 FAX 262-502-4743

DESCRIPTION:

Resinlab™ EP1238 is a two part acrylic / epoxy hybrid adhesive designed for bonding metals and plastics. It cures quickly at room temperature to a tough, semi-rigid material. It has good wetting to most surfaces and has controlled flow characteristics to give good wetting without excessive running or dripping. This product gives very good vibration and impact resistance. It gives good resistance to water, salt spray, inorganic acids and bases and most organic solvents.

It was especially formulated to a 2A:1B volume mix ratio for use in side-by-side dispensing cartridges and meter/mix and dispense equipment. EP1238 will reach handle cure at room temperature within 6 – 12 hours. Cure time can be accelerated by the application of heat. Times and temperatures from 2 hours at 65°C to 30 minutes at 100°C are typical for most applications. Time to heat substrate must be taken into account. Cooler temperatures will also extend work time and increase cure times.

TYPICAL PROPERTIES:

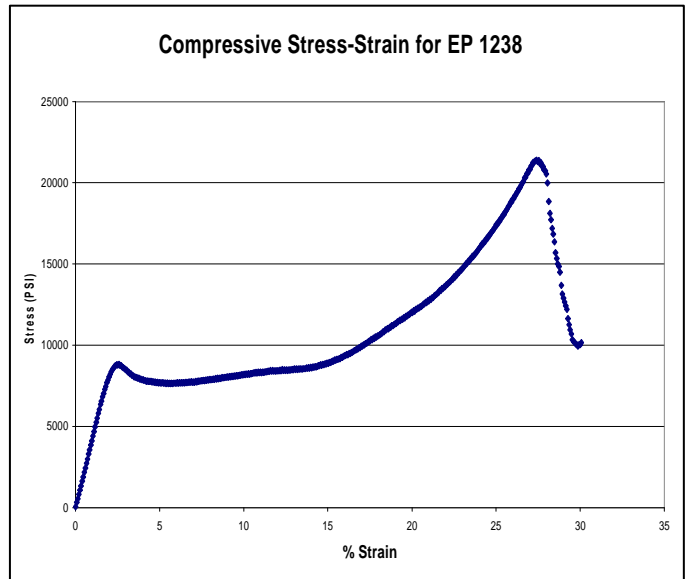
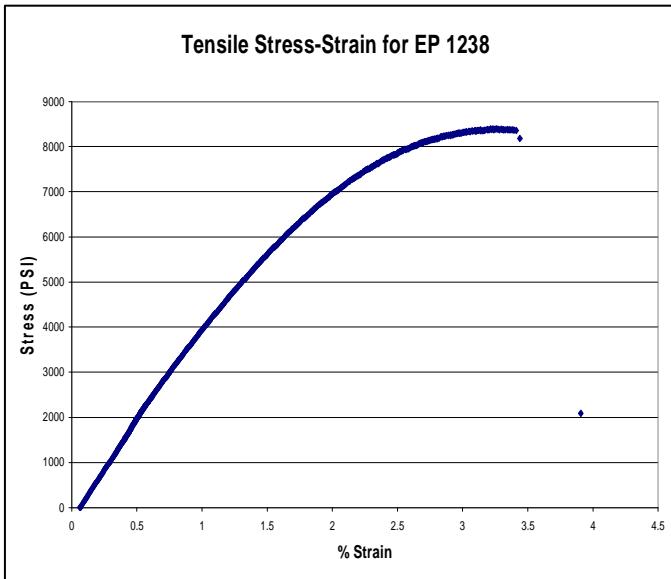
All properties given are at 25°C unless otherwise noted.

<u>PROPERTY:</u>		<u>VALUE:</u>	<u>TEST METHOD:</u>
Color		Off-White	
Viscosity			TM R050-12
RVT, #5, 2.5 RPM	Part A	40,000 cps (mPa-s)	
RVT, #6, 2.5 RPM	Part B	90,000 cps (mPa-s)	
	Mixed	65,000 cps (mPa-s)	
Specific Gravity	Part A	1.16	TM R050-16
	Part B	1.09	
	Mixed	1.13	
Pot Life		20 min.	TM R050-19
Mass		50 grams	
Hardness		80	TM R050-17
Scale		Shore-D	
Water Absorption		0.25 %	TM R050-35
24 hours			
Temperature Range**		-40 to 150°C	

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<u>PROPERTY:</u>	<u>VALUE:</u>		<u>TEST METHOD:</u>
Tensile	PSI	N/mm²	TM R050-36
Yield Strength	3,000	20.7	
Ultimate Strength	8,500	58.6	
Break Strength	8,500	58.6	
Elongation At Break	3-4 %		
Modulus	450,000	3,100	
T-peel Strength (Al to Al)	25 pli *		
Lap Shear Strength (2024 T3 Al Abraded / MEK Wipe)	4,000	27.6	TM R050-37
Compressive			TM R050-38
Yield Strength	9,000	62.1	
Ultimate Strength	21,000	144.8	
Break Strength	20,000	137.9	
Modulus	350,000	2,415	





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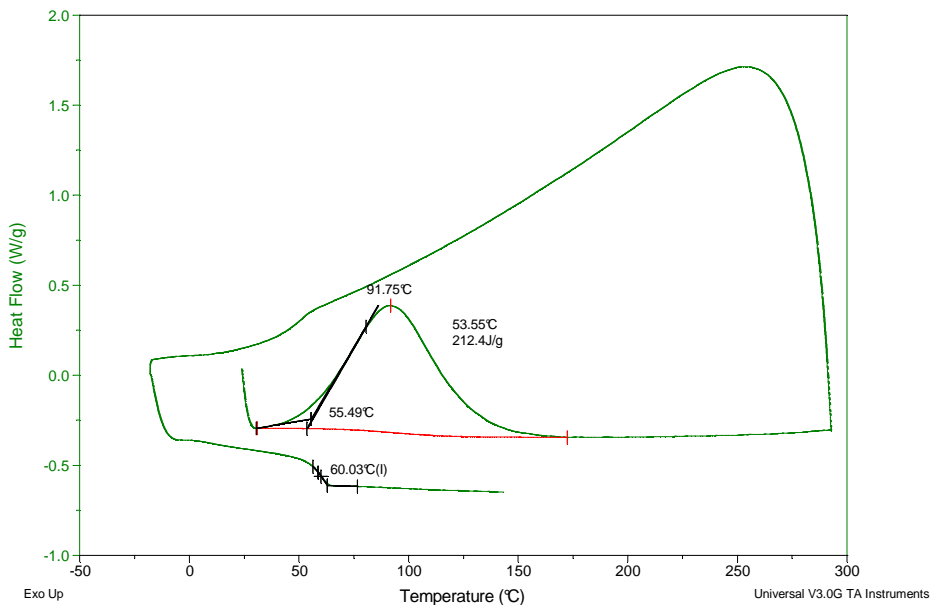
<u>PROPERTY:</u>	<u>VALUE:</u>	<u>TEST METHOD:</u>
Linear Coefficient of Thermal Expansion	80 ppm/°C (below Tg)* 194 ppm/°C (below Tg)*	
Thermal Conductivity	0.104 BTU/(hr·ft·°F) * 0.18 W/m° K *	
Dielectric Constant (25°C, 100Hz)	6.3 *	
Dielectric Strength	888 V/mil * 35.0 kV/mm *	
Volume Resistivity	1.6 x 10 ¹⁵ ohm-cm *	
Glass Transition Temp	60°C	TM R050-25
Exothermic Energy	212.4 J/g	
Onset Temp (by DSC)	55°C	

Sample: EP 1238 R0710110A
Size: 29.4000 mg
Method: 300 C full cure slow + Tg
Comment: 300 full energy + Tg

DSC

File: Z:\DSC\EP 1238\EP1238 R0710110A.001

Run Date: 26-Dec-02 15:24



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CURE SCHEDULE:

24 hours at 25°C
or 2 hours @ 65°C

INSTRUCTIONS:

- 1) Bring both components to room temperature prior to mixing. Cartridges should be stored in a vertical position to allow any air to accumulate at the lip. Mixer should be attached keeping the cartridge vertical and any air pocket purged this way. After mixer contains material, mixer tip can be dropped to dispense pre-bleed amount.
- 2) If used in bulk, weigh and mix parts A and B accurately and thoroughly, scraping sides of container often. Do not pour from mixing container, transfer to a new container as residual unmixed material may cause a tacky spot on surface of casting. If product is used in a side-by-side cartridge, attach a new static mixer with each cartridge, pre-bleed the first 3 inches of dispensed material or until a uniform color is obtained. Maintain adequate velocity during dispensing to ensure complete mixing.
- 3) Allow to cure undisturbed until product is fully gelled or tack-free to the touch.
- 4) Clean up uncured resin with suitable organic solvent such as MEK, acetone or other organic solvent.

SIDE - BY - SIDE CARTRIDGE SUITABILITY RATING

POOR FAIR AVERAGE GOOD **EXCELLENT**

This rating scale is a general guideline to give the user an expected level of success in a typical bench-top dispensing scenario.

Important process variables to consider are: Cartridge type and size, wall thickness; manual or pneumatic gun type; static mixer design and dimension; product viscosity spread and ratio; shot size, shot frequency, flow rate; temperature range during use.

This scale also address's product stability in a cartridge. Factors such as filler content and settling rate, storage temperature and cartridge orientation are important factors which affect this.

It is important for the user to define the optimum static mix for each dispensing process, a change in any of the above variables can affect the mix quality. Dispensing the product on a flat surface using the dispensing pattern can help show the quality of mixing in terms of thoroughness and lead/lag consistency.

MIX RATIO:

Mix Ratio (Part A to B):
by weight 100 to 47
by volume 2 to 1

* Asterisk denotes values considered typical to associated resin systems or extrapolated from other test results.

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** Temperature Rating is based on average design requirements and is not intended as a guarantee of suitability for all applications operating at that temperature.

Notes:

Values presented above are considered to be typical properties, not to be used for specification purposes. Contact our Technical Department for further information.

Many epoxy resin systems are prone to crystallization as epoxy resin is a super-cooled fluid. This condition may give the product a gritty or grainy appearance (or hazy in clear products). In extreme cases it may appear solid and cured. Fluctuating storage temperatures (within 5 to 50°C) aggravate this phenomena. Heating to 50°C to 60°C with stirring can usually restore products. Storage at 25 +/- 10°C is optimum for most products.

SHELF LIFE:

12 Months